Philosophical Transactions

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lowiſh water in it, having made a roundiſh cavity, impreſſed in that kidney: whence ſome thought it came, that a little before his death a ſuppreſſion of Vrine had befallen him; though others were of opinion, that his Vrin was ſuppreſſed upon the regurgitation of all the Seroſity into the Lungs. Not the leaſt appearance there was of any *Stony* matter either in the Kidneys or Bladder. His *Bowels* were alſo ſound, a little whitiſh without. His *Spleen* very little, hardly equalling the bigneſs of one *Kidney*. In ſhort, all his inward parts appear'd ſo healthy, that if he had not changed his Dyet and Air, he might perhaps have lived a good while longer.

3. The Cauſe of his death was imputed chiefly to the change of *Food* and *Air*; foraſmuch as coming out of a clear, thin, and free Air, he came into the thick Air of *London*, and after a conſtant, plain, and homely Country-diet, he was taken into a ſplendid Family, where he fed high, and drunk plentifully of the beſt wines, whereupon the natural functions of the parts of his body were over-charged, his Lungs obſtructed, and the habit of the whole Body quite diſorder'd; upon which there could not but ſoon enſue a diſſolution.

4. His *Brain* was found entire and ferme: And though he had not the uſe of his Eyes, nor much of his Memory, ſeveral years before he died; yet he had his Hearing and Apprehenſion very well, and was able even to the hundred and thirtieth year of his Age to do any Husbandmans work, even Threſhing of Corn.

An Account of two Books,

I. *De* VISCERUM STRUCTURA *Exercitatio Anatomica* MARCELLI MALPIGHII, *Philoſ. & Med. Bonon, &c.* Bononiæ *1666. in* 4°.

A Copy of this Ingenious Book was tranſmitted by the Author himſelf to the Publiſher, and there being as yet no other Copies of it in *England*, at leaſt not among *Stationers*, ſome Account of the Contents thereof will, 'tis thought, not be unacceptable to the Curious, whilſt either more of them be procured out of *Italy*, or the Book it ſelf be reprinted here; which latter I now find actually a doing in 12. by Mr. *John Martyn*.

It contains 5. Diſſertations: Of the *Liver*; the *Exterior*

part

part of the *Brain*; the *Kidneys*; the *Spleen*; the *Polypus of the Heart.* Concerning the *Liver*, he *firſt* gives a ſummary Account of what hath been ſaid of it; *then* relateth what himſelf hath obſerved in that part, in all ſorts of Living Creatures, finding it to have Lobes and to be a *Glandul* of that kind, which by Anatomiſts are called *Conglomerate* in contradiſtinction to the *Conglobate*; thirdly examines (very modeſtly) the reaſons given by the Learned Dr. *Wharton* againſt 'its being a Glandul; *fourthly*, aſſigneth 'its office and Uſe, and making it no other, then that it ſeparateth the Gall, and conveighs the ſame, by means of the *porus biliarius*, into the Inteſtins; notwithſtanding all the Exceptions of *De Bills*, *Deuſingius*, *Sylvius* &c. Whereunto he ſubjoyns alſo the great Uſe of the *Gall* (eſteemed a kind of Excrement by the Vulgar) in performing the part of a neceſſary condiment and ferment in digeſtion; ſo that upon it's abſence, or obſtruction in the Liver, very dangerous diſeaſes, and eſpecially the Dropſy, muſt needs enſue.

Touching the *Exterior part* of the Brain (called by Anatomiſts *Cerebri Cortex*) he firſt inquires into the *Nature* of it's Subſtance, and finds it a *Congeries* of *Glanduls*, more conſpicuous to be ſuch in boyled than in crude Brains, and moſt diſcernable in Fiſhes and Birds: Where he alledges an Obſervation of a Stone found in the Brain, which was faſhioned like the fruit of Mulberrys, conglobated and made up of many ſmal kernels or grains, of aſh-color, probably thus form'd by the petrified *Cortex* of the Brain, and ſo retaining the natural Shape of the *Glanduls* thereof. *Next*, he ſolveth the arguments of the above mentioned Dr. *Wharton* produced in his Book De *Glandulis*, againſt that Opinion. *Further*, explaining the Veſſels of the Brain, and their Proceſs, he affirms, that the whole Subſtance called the Medulla of the Brain and the After-brain, is a *Heap* of *Fibres* or Veſſels, which from the Stock or Trunck of the Spinal marrow, by many Windings and Crinkles forme thoſe Cavities and Involutions, to be found there, and are at laſt deeply implanted in the very Glanduls of the Brain: Where he teaches, that the whole Work of ſeparation and depuration is perform'd by the inward ſtructure of the Glanduls of the Brain, the Iuyce paſſing

immediatly

immediatly out of them into the hollow and fiſtulous fibres, to be conveyed by a continued courſe into the ſubjacent parts to execute it's ſeveral offices, as is performed by the little Tubes or Pipes of Plants: adding for the illuſtration of the Original of the Spinal Marrow and the Nerves, that that Marrow is a Bundle of Nerves, which whil'ſt it makes up the Brain, divides it into two parts (by the circumvolutions of which the ſides of the ventricles are formed) and terminates at laſt in the *Cortex*, wherein, and in whoſe Glandular grains the extreme roots of the Nerves, in the ſmalleſt ſize, are implanted. After this he proceeds to the uſe of the *Cortex*, and is of opinion, that by theſe little Glanduls there are ſeparated and collected thoſe particles, which Nature has deſign'd for Inſtruments of Senſation, and by which, when convey'd through the tubulous Nerves, the coherent parts are impregnated and ſwell'd, and the Animal made ſenſible of the operations of ſeveral Objects. Moreover he advances ſome conſideration of his, upon the Learn'd Dr. *Willis*'s Opinion about the Production of the Internal Sences by vertue of the *Brains ſtructure*; and alſo upon his aſcribing to thoſe Bodies, he cals *ſtriata* and *radioſa*, a twofold texture, whereof the one aſcends, the other deſcends, for the perception of the impreſſions of Senſible Objects by the former, and the performance of Motions by the latter. *Laſtly*, he takes notice that the famous Dr. *Gliſſon* hath derived the matter of the *Nervous Iuyce* through the nerves into the Brain, from the *Glanduls of the Meſentery*; and *Fortius*, from the *Mouth* and *Inteſtins*; whereas, ſince he has obſerved the Maſſe of the Brain made up only of a *Glandular Cortex*, and of *Fibres* proceeding from thence, together with the ſanguineous veſſels, and not yet found any cavities for receiving the Chyle, and conveying it into every part of the Brain; he therefore conceives, that all the Nerves are produced Out of the *Brain* and the *Cerabellum*, for this end, that they may carry down the juice ſeparated in the very Glanduls; there wanting no ſanguineous veſſels, by which both ſufficient matter may be furniſht, and the reſidue of the percolated Iuyce carri'd away again.

Concerning the *Kidneys*, he *firſt* relates, what hath been taught of them hitherto; and *then* delivers both his own obſervations about them,

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by a long uſe of the Microſcope, and his deductions from them. He affirmes, that he hath always obſerved, the *Kidneys* to be alſo a *Concrete* of ſmall *Glanduls*, by injecting through the Emulgent Artery a black liquor, mixt with ſpirit of wine, and by cutting the *Kidneys* longways, and then finding, betwixt the Urinous Veſſels and their interſtices, very many of ſuch *glanduls* which like litle apples are appendant to the Sanguineous, veſſels, turgid with that black liquor. He adds, that, after many trials, he at laſt found alſo a connexion betwixt thoſe *Glanduls* and the Veſſels of Urine. As to the *Pelvis*, he makes that nothing but an Expanſion of the *Ureter*, as conſiſting of the ſame membrane and nervous fibres with the *Ureter*. Diſcourſing of the *Uſe* of the *Kidney's* he finds it difficult to explain, by what art and mechaniſme, Nature ſo copiouſly excretes by the Reins (whoſe glandular ſtructure ſeems to be uniforme) a liquor, which is compounded of Aqueous, Saline, Sulphury and other particles, and ſometimes the relicks of impoſthums, and other filth of the Body: Where he takes great pains, in ſome meaſure to clear that matter; adding thereunto the manner of the *Stones generation* in the Kidneys.

In the Exercitation about the *Spleen*, having premiſed, as before in the other parts, what has been hitherto publiſh't about it, he ſubjoyns what himſelf hath further obſerved therein: viz. That the whole body of the Spleen, however it may ſeem to be a ſubſtance made up of concreted blood, yet is indeed a Complex of Membranes, faſhion'd and diſtinguiſh't into little Folds and Cells; clearly to be ſeen by ſyringing into it ſtore of Air by the *Ramus ſplenicus*, whereby the whole Spleen will become ſo turgid, as to ſwell into an exceſſive bigneſs; which if upon the exſiccation of the thus ſwelled part, it be preſently cut, its whole maſſe will be found made up of Membranes, of the ſhape of the Cells in Bee-hives; as he affirms to have clearly ſeen in the Spleen of a Sheep and Hogg, and in that of a man. But then he adds, that through this whole membranous Body of the Spleen are copiouſly diſperſed Cluſters of Glanduls, or, if you will, Bladders, very plainly reſembling Cluſters of Grapes; appendant on the fibres, and the extremities of the arteries and nerves of that body. Coming to diſcourſe of the *Uſe* of the *Spleen*, after he hath examined the various opinion of Anatomiſts concerning it, and declar'd his diſſatisfaction therein, together with the reaſons thereof, he does with great modeſty as well as ingenuity offer his thoughts about it, viz. That, conſidering the whole ſtructure of the Spleen, it ſeems to be deſigned for a new ſeparation and mixture of the Juices conveyed into it's Glanduls by the Arteries and Nerves, and then collected in the Cells; whereby and by it's ſtay there, the Blood receives ſuch a further change, and is ſo much more exalted, that being convey'd by the *Splenetick Branch* into the neighbouring *Liver* and there refermented, it acquires a diſpoſition, for an eaſy ſeparation of the *Gall* there (which is ſuppoſed to be the chief work of the Liver.)

Touching the *laſt* ſubject of theſe Diſſertations, which is of the *Polypus* of the *Heart*, the Author obſerves, after the recitation of other Writers opinions of the ſame, that thoſe Excreſcences grow and ſwell for the moſt part in the Right Ventricle of the Heart ſooner than the Left, as they alſo do about the other veins of the Lungs and Head, from this cauſe, That the returning maſs of the blood is now, by the long continued nutrition of the parts, and by tranſpiration, depauperated of the ſpirituous and finer particles, ſuch as are the ſulphurous and the red; and whilſt it is freſhly confounded with the Chile, and other liquors, yet different from the nature of bloud, the white and ragged parts thereof, being precipitated by the contiguity of thoſe unlike parts, are in the large folds of the Hearts right ventricle or auricle, by their ruggedneſs and little chinks entangled; whence being aſſociated to the like others, paſſing by, they grow into a greater bulk; as it happens in the generation of the ſtone in the *Pelvis* of the kidneys, or in the concretion of Tartar in water Conduits. But, beſides this, the Author conceives, that the *Polypus* may be generated from other cauſes, ſince Experience evinces, that it is produced by poiſonous potions, by malignant Fevers, cauſed chiefly by a *miaſma* or corruption of the Air, and by the Plague, and other infectious Diſtempers; wherein it happens, that ſuch ſteams or juyces are, by the corrupt ferments of the *Viſcera*, mixt with the Bloud, which diſturb its texture. This our Author illuſtrates by ſome Experiments; whereof one is, that powring *Oyl of Sulphur*, or of *Vitriol* upon warm bloud, it raiſeth it, and by a kind of coction at laſt incruſtates it: *Another*, that throwing pulveriſed *Allum* on it, it renders it black and aduſt. But that *Niter*, either pulveriſed or diſſolved *per deliquium*, attenuats it, and renders it very florid; as alſo doth *Aqua vitæ*, *Sal gemmæ*, *Common Salt*, *Sal Armoniac*, *Sulphur*, and *Harts horn*; which alſo for a pretty while hinder the coagulation of the bloud. And diſcourſing from hence of the cauſes, which in the Plague, &c. do coagulate the bloud, either in whole, or in part by generating *Polypus's*, he ſaith, that thoſe cauſes ought to be taken from ſomething analogous to *Allum*, *Vitriol* and the like, not from *Niter* and *Volatile Spirits*, which ſhould rather be uſed as remedies by re-fermenting and rendring fluid the bloud.

II. *EPHEMERIDES MEDICEORUM SYDERUM*, *ex Hypotheſibus & Tabulis* Joh. Dom. Caſſini, *Bononiæ* 1668. *in thin* fol.

What *Galilæo Galilæi* undertook, after he had diſcover'd the *Satellits* of *Jupiter*, of giving an eaſy and ſure way to know the *Longitudes* by a careful Obſervation of thoſe Stars; Signior *Caſſini* ſeems to have now performed more fully than others, by compoſing certain *Tables*, after 15 years Obſervations made with exactneſs of the motion of the ſaid Satellits. Theſe Tables are contain'd in this Book; and for the verifying of them, he hath added the *Ephemerides* of thoſe Stars for the year lately elapſed, *viz A.* 1668. Whereupon the Author hath been deſired from hence, that, if he have calculated any more *Ephemerides* of them for any following years, he would oblige the Curious by timely publiſhing them for obſervation. Mean time the *French* Philoſophers at *Paris* have acquainted us in the *Journal des Scavans* of *Dec.* 17. 1668. with the Obſervations made by them, to verifie the ſaid *Ephemerides*, by a Teleſcope of 14 foot; which may be of ſervice to thoſe, that have made obſervations elſewhere at the ſame inſtant and with the ſame accurateneſs, to know the difference of Longitude between *Paris* and the Place of their Obſervation.

Octob. 7. 1668. *hor.* 10. *pom.* 32 *m.* the firſt Satellit (call'd *Pallas*) entred upon the face of *Jupiter*.

Oct. 8. *h.* 8. 11. *m.* The 2d Satellite (call'd *Juno*) went out behind *Jupiter*.

Oct. 9. *h.* 8. 54. *m.* the 2d. Satellite went out from the face of *Jupiter*.

Oct. 16. *h.* 10. 4. *m.* the 2d. Satellite entred upon the face of *Jupiter*.

Oct. 22. *h.* 10. 41. *m.* 33. *ſec.* the firſt Satellite entred into the ſhadow of *Jupiter*.

Oct. 23. *h.* 8. 32. *m.* the firſt Satellite entred upon the face of *Jupiter*.

Nov. 12. *h.* 10 40. *m.* the 2d. Satellite entred into the ſhadow of *Jupiter*

Nov. 20. *h* 2. 38. *m.* 30. *ſec.* after midnight, the 3d Satellite (call'd *Artemis*) entred into the ſhadow of *Jupiter*.

AN